

This discovery again shortens the gap between the Chelonians and the typical Reptilia. The group to which *Hydraspis* belongs is characterized by distinct nasals, separate dentary bones, and strong transverse processes to the cervical vertebræ, and is in those respects altogether of a more generalized type than the other Testudinata; however, as regards the shell and pelvis it stands apparently a step in advance, and the Pleurodira have for that reason been regarded, perhaps erroneously, as the most specialized type. Geologically, so far as the record goes and if Dr. Baur's recent views on certain Triassic Chelonians be correct, they are the oldest. The Wealden *Peltochelys Duchastelii*, the type specimen of which I was permitted to examine by my friend M. Dollo, is unquestionably closely related to *Hydraspis* and *Chelodina*. I have a suspicion that it will prove to be the young of *Plesiochelys*.

It is undeniable that all the discoveries that have been made of late give support to the view first expressed by Cope, nearly twenty years ago, on the affinities of those two groups, the *Chelonia* and the *Rhynchocephalia*, the systematic position of which has given rise to so much controversy.

#### BIBLIOGRAPHICAL NOTICES.

*A Textbook of Biology.* By J. R. AINSWORTH DAVIS.  
London: Charles Griffin & Co., 1888.

MR. DAVIS has designed this textbook in order to meet the requirements of the Intermediate Science and Preliminary Scientific Examinations of the London University. Such a work can never be one of a high class, for it must be limited by the conditions of the syllabus of a given body; in this case the body is not a teaching, but only an examining one.

Mr. Davis's book must therefore be tested solely by the syllabus to which it professes to afford an aid. The exposition of the simple facts of anatomy and physiology is generally accurate, but we do not think it is better done than in a number of other works, such as those of Huxley and Martin, or Marshall and Hurst. So far as the work is, as it claims to be, an introduction to theoretical biology, it is clear from the conditions imposed that it must be more or less unsatisfactory in correspondence with the powers and characteristics of the writer. For us the whole has too much the air of a cram-book to justify us in recommending it from this point of view; we believe that the following explanation is the worst in the book, but the mental calibre of the writer may perhaps be judged from it. We find in the glossary, "Apodemo (*αποδημος*, absent from home), in the Crayfish.—One of the elements of the endophragmal system." Mr. Davis not only should have learnt that in Greek there is *ε* and *η*, but he should have learnt too that explanations should explain before he set to work on a glossary. The figures are partly original

and partly borrowed: the latter vary in quality; the former are, without exception, the worst we have seen for a long time.

*Proceedings of the Bristol Naturalists' Society*, n. s. vol. v. (1886-87), pt. ii. pp. 95-206: *Engineering Section*, pp. 1-94. Bristol, 1887.

THIS part of the Bristol Naturalists' Society's Proceedings opens with a paper on "Bristol Building Stones" by Prof. Lloyd Morgan; the various local rocks available for the purpose are described, the principal buildings constructed of them being mentioned, and particulars of their resistance given. In a second paper, "On the Origin of Mountain-Ranges," Prof. Morgan criticizes Mr. Mellard Reade's views, and offers some general suggestions on this difficult subject. Further geological information appears in the Engineering Section, Mr. Charles Richardson giving a valuable paper on the Severn Tunnel. Several interesting and useful sections are given as illustrations to the thirty pages of text; and the whole forms, with some notes by Prof. Morgan, an important contribution to local and applied geology.

In the Botanical Section Mr. J. W. White contributes some supplemental notes to the "Flora of the Bristol Coal-field," and Mr. C. Bucknall continues his valuable papers on the Fungi of the Bristol district, illustrating this portion of his work with four plates. Some interesting notes apropos of the tercentenary of the potato are contributed by Mr. G. F. Burder.

Local Zoology is taken in charge by Mr. H. J. Charbonnier, who catalogues the Reptilia, Amphibia, and Pisces observed by him in the district.

The local Meteorology is chronicled by Messrs. G. F. Burder and H. B. Jupp.

Many short papers and abstracts of papers also appear in this part ii., amongst which we may mention:—E. W. Phibbs, "Note on a Sacred War Trophy from Ecuador, consisting of a Human Scalp and Face;" W. P. Mendham, "The Deposition of Smoke and Dust by means of Electricity;" Prof. W. Ramsay, "On Colour Blindness;" Thomas Morgan, "Chilled Iron;" J. W. I. Harvey, "On the Method adopted to Compound a Pair of Ordinary Oscillating Paddle-wheel Engines;" and G. W. Sutcliffe, "Notes on Stationary Engines."

#### MISCELLANEOUS.

*On the "Nursing"-habits of Dendrobates, as observed by A. Kappler.*  
By G. A. BOULENGER.

A SHORT time ago Messrs. Cope and H. S. Smith\* announced the startling discovery that a South-American frog, *Dendrobates braccatus*, Cope, carries its tadpoles on its back; these tadpoles differ in no respect from the normal type, and simply adhere (by the mouth?) to the back of the parent. Mr. Smith observes that the tadpoles "were moist and glistening, as if they had just been taken from water, though the sun was shining hotly over them." It is a great

\* Amer. Nat. 1887, p. 307.